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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop an
Electricity Integrated Resource Planning
Framework and to Coordinate and Refine
Long-Term Procurement Planning
Requirements

Rulemaking 16-02-007
(Filed February 11, 2016)

**THE PROTECT OUR COMMUNITIES FOUNDATION
REPLY COMMENTS ON THE PROPOSED PREFERRED SYSTEM PORTFOLIO AND
TRANSMISSION PLANNING PROCESS RECOMMENDATIONS**

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Pursuant to the January 11, 2019 Ruling of Administrative Law Judge Julie Fitch, Seeking Comment on Proposed Preferred System Portfolio (PSP) and Transmission Planning Process (TPP) Recommendations, the Protect Our Communities Foundation (POC) submits the following reply comments.

I. INTRODUCTION

POC appreciates the opportunity to respond to parties' comments on the PSP and TPP and responds to other parties' arguments on the following questions posed in the ruling.

1. Do you support the staff recommendation that the Commission adopt the hybrid conforming portfolio as the basis for the Preferred System Plan for the 2017-2018 IRP cycle? Why or why not?

The Public Advocates Office (PAO) recommends that, "The Commission should defer sending a revised submission of a reliability or policy-driven base case to the TPP until the

conclusion of the 2019-2020 IRP cycle.”¹ The California Environmental Justice Alliance (“CEJA”) and the Sierra Club stated, “the hybrid conforming portfolio also fails to meet RPS requirements.”² The Utility Reform Network (TURN) added that the hybrid conforming plan GHGs are, “over 25 percent higher than the estimated 34 MMT GHG emissions in 2030 of the Reference System Plan.”³ None of these parties recommended that the hybrid conforming portfolio (HCP) be adopted as the basis for the Preferred System Portfolio. While POC understands and generally agrees with their concerns, POC sees value in leaving as much flexibility as possible open into the 2019-2020 IRP cycle so that up-to-date and accurate in-state solar and battery assumptions may provide for much more accurate modeling and ultimately resource selection than was possible in the 2017-2018 cycle. As noted in POC’s opening comments, “Transmission procurement is unlikely based on the HCP.”⁴ Reducing the risk of transmission procurement is a key and critical priority at this point in the 2017-2018 IRP cycle because significant flaws remain in the modeling. Additionally, HCP modeling runs by different parties resulted in large disparities in outputs. POC agrees with the PAO that, “Even if the Commission adopts the hybrid conforming portfolio as the PSP, it should not utilize that portfolio for transmission planning purposes.”

The Joint CCAs raise several important points about the HCP. First, they note that, “The CCA programs do not propose any new fossil fuel generation or GHG-emitting biogas or

¹ See The Public Advocates Office at the California Public Utilities Commission Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 2

² See The California Environmental Justice Alliance and the Sierra Club Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 6

³ See The Utility Reform Network Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 2

⁴ See The Protect Our Communities Foundation Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 2

biomass resources.”⁵ POC applauds the CCAs eschewing GHG emissions, and applauds those CCAs with aggressive GHG reduction targets that “would provide GHG reductions well in excess of those required to meet the programs’ respective shares of required emissions reductions.”⁶ Additionally, as mentioned in the CEJA and Sierra Club comments, because the LSE portfolios by no means equate to signed contracts to 2030, many of the resources within the portfolios are still up in the air. The Commission needs to keep a close eye on all LSEs to make sure that GHG emissions are met.

3. Are there reasons for the Commission to utilize a different portfolio (or portfolios) for transmission infrastructure planning (in the TPP) as distinct from the portfolio describing procurement actions of LSEs? Discuss.

POC’s analysis on question 3 showed that if market pricing for batteries and in-state solar were used as inputs in the RESOLVE and SERVIM models, instead of the above-market prices used by the models, the result would be an overwhelming selection of in-state resources instead of the out-of-state (OOS) resources that the models are currently projecting as the most cost effective (see POC figure 1A and 1B from opening comments).⁷ CAISO’s comments provided additional information which further highlights the benefits of in-state resources. CAISO stated that “import supplies are limited during high net load periods.”⁸ And that “This reflects supply constraints outside of California that should also be recognized in the Commission Energy Division staff’s SERVIM modeling.”⁹ Thus, the bottleneck in accessing OOS resources is not a lack of transmission but rather a lack of OOS resources. The PAO agreed with POC’s position

⁵ See The Joint CCAs Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 2

⁶ *Ibid*

⁷ See The Protect Our Communities Foundation Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 10

⁸ See The CAISO Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 8

⁹ *Ibid* at p. 4

on OOS resources that, “The cost-benefit analysis of relying on more out-of-state resources instead of in-state resources to meet state RPS and GHG reduction targets is likely underestimating the costs of out-of-state resources and underestimating the benefits of in-state resources. The benefits of in-state resources are likely understated because these estimates do not consider the possible benefits from in-state resources including [] state jobs and sales tax revenue.”¹⁰ POC agrees that the clear-cut case for in-state renewables becomes even more convincing when all benefits are considered, not just the energy costs.

Clearly California developers see good prospects for storage. As PAO points out, there is 21,959 MW of storage just in California’s interconnection queue. That amount of storage is far more than any of the modeling inputs assume for all storage through 2030.¹¹ Thus POC and the PAO agree that the RESOLVE model significantly and inaccurately undercounts available storage. As a result RESOLVE over estimates renewable curtailment, over estimates GHG emissions, over estimates needs for transmission, and under estimates gas generation that can be retired, among myriad other inaccuracies.

4. Comment on whether or not the hybrid conforming portfolio is likely to result in a reliable system in 2030.

SDG&E states that, “A great deal of uncertainty exists regarding whether the HCP will result in a reliable system in 2030.” SDG&E’s statement is inaccurate. Modeling of the HCP by Staff demonstrates overwhelming evidence that the system will be reliable in 2030. First, the Staff modeling showed thousands of MWs of excess generation over and above what was needed to maintain the reliability standard of 0.1 LOLE. Moreover, the modeling does not fully account

¹⁰ See The Public Advocates Office Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 18

¹¹ See The Public Advocates Office Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 18

for a decade of time of use (TOU) rates which will shift customer electricity use away from peak load times. The model does not assume any aggregation of batteries into virtual power plants which will amplify the value of BTM batteries to the grid. The model assumes less demand response activity than the rapidly increasing demand response capacities available to grid operators as a result of automated controls found in smart devices. Furthermore, as POC pointed out in its comments, simply by tweaking the TOU rate structure so that the lowest cost hours occur during the highest solar production hours, electric vehicles would add thousands of MWs of battery capacity to the grid.¹² Thus, while the HCP is over 30 times more reliable than the standard reliability metric of 0.1 LOLE, modeling is still underestimating just how reliable the HCP actually would be in 2030. SDG&E's assertion to the contrary is simply wrong.

5. Are the adjustments made by staff to the geographic resource allocations proposed by LSEs to develop the hybrid conforming portfolio, as described in Section 2.1 above, warranted? What modifications would you make to these assumptions and why?

SDG&E argues that, "LSEs should not be restricted from proposing to add new resources that exceed the available transmission capacity."¹³ SDG&E further claims that Staff should not have made adjustments to resource locations. POC strongly disagrees with SDG&E's positions. LSE's have no way of knowing what each other are proposing for resource locations and thus overlapping resource area selections will obviously occur. Recommending that Staff ignore this fact and refuse to make corrections will lead to overbuild of transmission and stranding of assets. SDG&E's position, if accepted, would result in suboptimal use of resources and ratepayer funds.

¹² See The Protect Our Communities Foundation Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 26

¹³ See San Diego Gas and Electric Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 6

6. Comment on the implications of the increased reliance on imports represented by the hybrid conforming portfolio.

“SDG&E agrees with the Commission’s approach of developing a policy scenario that relies heavily on imports to further assess the need for additional transmission [].”¹⁴ SDG&E’s position overlooks two key and critical developments. First, the imports in the conforming portfolio are likely simply a placeholder as IOUs experience departing load and before CCAs ramp up their own procurement. As the CCAs are forming at different times and at different rates, the placeholder of unspecified imports will be staggered as well. Second, SDG&E jumps to the conclusion that additional transmission will be needed when many alternatives are now available in the form of behind-the-meter (BTM) storage and BTM photovoltaics (PV), virtual power plants (VPP)s, time-of-use (TOU) electricity rates, and demand response (DR). All of these alternatives reduce the need for transmission in one or more ways. Some of them are simply a matter of policy and could be activated through policy direction without requiring any infrastructure spending. For instance, TOU can be tweaked to support instead of hamper the growth of renewable energy. DR could be an opt-out program instead of an opt-in. VPPs are just a matter of efficient software control of existing infrastructure. The Commission has an incredible opportunity to select policy optimization. By optimizing policy, the Commission can bypass billions of dollars wasted on inflexible infrastructure.

12. Comment on the differences between the hybrid conforming portfolio and the portfolio associated with the RSP calibrated to the 2017 IEPR assumptions. What are the implications of these differences and how should they be addressed?

¹⁴ See San Diego Gas and Electric Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 7

In SDG&E's response to this question it notes, "Waiting for new technologies, like Power-to-Gas or Carbon Capture, may be a more viable solution than procuring additional renewables in the near-term. Power-to-Gas and Carbon Capture add the ability to maintain flexible, reliable natural gas-fired generation while still reducing GHG emissions." SDG&E's comment is naïve and does not reflect commercial reality or just and reasonable costs. First carbon capture is not yet a commercialized technology. The cost fossil generation with carbon capture is much higher than existing renewables even when assuming that large amounts of battery storage would be paired with renewable generators. Second, power-to-gas is a way of transforming renewable energy into fossil-fuel energy. That transformation reverses the process of carbon capture and is the exact opposite of California's energy policy and its statutory mandates. POC has previously commented on this highly inefficient, expensive, and GHG-producing technology.¹⁵ SDG&E is proposing that California should delay its fight against climate change and ignore state law, in the hopes that power-to-gas might one day be cost effective to deploy. SDG&E asserts this position despite the fact that power-to-gas would result in increased GHG emissions, the very thing that California is trying to avoid. Much more detail is available in POC's *Reply Comments on Inputs and Assumptions for Development of the 2019-2020 Reference System Plan*.¹⁶

17. Comment on any other aspects of the hybrid conforming portfolio analysis.

SDG&E states that the "Commission should not favor resource additions that do not require transmission upgrades over resource additions that do require transmission upgrades

¹⁵ See The Protect Our Communities Foundation Reply Comments on Inputs and Assumptions for Development of the 2019-2020 Reference System Plan (Jan. 15, 2019) at pp. 5-8

¹⁶ *Ibid*

strictly based on which asset takes longer to plan, permit, design and build.”¹⁷ POC agrees that time alone should not be the sole factor used to determine the most effective solution for a particular energy need. Time does usually have a significant impact on cost though and cost must be considered. POC disagrees with SDG&E’s argument regarding transmission. “Transmission assets do not always take longer to build than new resources.”¹⁸ That statement is incorrect when comparing transmission build time to all of the new resources that are available. For instance, VPPs are software aggregations of resources that are being underutilized. “Building” a VPP is essentially instantaneous and thus faster than a transmission project, even if the transmission project in question only took a day. In contrast, SDG&E’s example of “short term” transmission project is “less than 3 years.” Additional examples of short build-out timelines for new infrastructure is residential or commercial battery or solar projects can be installed in one day. Another example of a short timeline resource is utility scale battery projects which can be installed in less than 100 days.¹⁹ Each of those renewable projects have the ability to relieve local RA constraints more quickly, efficiently and cleanly than SDG&E’s proposal to use transmission.

20. What are the potential implications if the CAISO analyzes the hybrid conforming portfolio and takes transmission investments to the CAISO Governing Board, if the resource procurement by LSEs between now and 2030 turns out to be significantly different than the hybrid conforming portfolio suggests? If this is a concern, suggest potential remedies or other analysis or actions that could be taken.

¹⁷ See San Diego Gas and Electric Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 15

¹⁸ See San Diego Gas and Electric Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 15

¹⁹ Greentech Media, *Tesla fulfilled its 100-day Australia battery bet. What’s that mean for the industry?* (November 27, 2017) <https://www.greentechmedia.com/articles/read/tesla-fulfills-australia-battery-bet-whats-that-mean-industry#gs.7VXDNPYw> [as of February 10, 2019].

POC agrees with TURN that, “any new transmission investments the CAISO management or Governing Board approves based on the HCP might be suboptimal or even ‘stranded,’ imposing unnecessary costs on customers.”²⁰ CEJA and Sierra Club and the PAO highlight the flaws of the resource selections and also that the tentative nature of the LSE selections were not adequate enough to even pass the HCP on to CAISO for any use. POC agrees with these parties that transmission planning should not happen as a result of IRP cycle 2017-2018 modeling outputs. SDG&E also shared the same view regarding procurement stating that, “this initial IRP cycle is properly viewed as a “proof-of-concept” dry run that will not result in new resource procurement requirements.”²¹ POC agrees that the 2017-2018 trial run should only be used for ironing out the process and is not adequate yet for determining procurement.

21. Do you support the staff recommendation to transmit two policy-driven sensitivity scenarios (Case B and Case C) to the CAISO for further analysis as policy-drive sensitivity scenarios? Why or why not? What changes would you make?

POC showed conclusively that battery prices alone can dispel the myth that transmission of OOS resources is cost effective. In its comments on an earlier question PAO noted that, “The costs of out-of-state resources are likely underestimated because more than one interregional transmission project would likely be needed to access 2,000 MW of out-of-state wind.” PAO’s statements and research backs up POC’s findings. However, PAO then went on to find Case C acceptable as a sensitivity. POC is confused by why PAO disregarded its own arguments (and arguments that the PAO supported with excellent research) as to the poor cost-effectiveness of OOS wind compared to in-state renewable resources. PAO’s recommendation for forwarding

²⁰ See The Utility Reform Network Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 10 and 11

²¹ See San Diego Gas & Electric Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 18

Case C does not align with its finding that OOS resources can not compete with in-state resources on price. POC reiterates that PAO's conclusions should be rejected because OOS resources should not be considered as options due to their lack of cost-effectiveness in addition to the fact that they are less reliable than energy generated either at or close to the point of use.

26. Acknowledging that near- and mid-term reliability issues have been addressed in comments in response to a separate ruling in this proceeding, should the Commission order any resource procurement in the context of the IRP proceeding at this time? How much? Explain your rationale.

POC agrees with the PAO that, "The Commission should also not order any resource procurement in the context of the IRP proceeding at this time."²² Generally parties agreed that ordering resource procurement should not happen as a result of the initial IRP cycle.

Procurement prior to refinement of the modeling and correction of the inputs and assumptions would be like shooting in the dark, making it hard for California to hit its target. However, CEJA and the Sierra Club recommended that some procurement should move forward. They request the Commission, "issue a decision in this IRP proceeding that determines the amount of procurement of integration resources, including resources such as storage [and] demand-side resources []." ²³ POC agrees that if any resources make sense to procure, integration resources should be at the top of the list. Those resources will reduce peak demand and in turn can reduce fossil fuel use and the average price of electricity for ratepayers.

²² See The Public Advocates Office at the California Public Utilities Commission Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 2

²³ See California Environmental Justice Alliance and the Sierra Club Comments Proposed System Portfolio and Transmission Planning Process Recommendation (Jan. 31, 2019) at p. 27

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